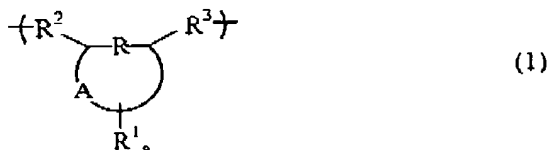


The following listing of claims will replace all prior versions, and listings, of claims in the application:

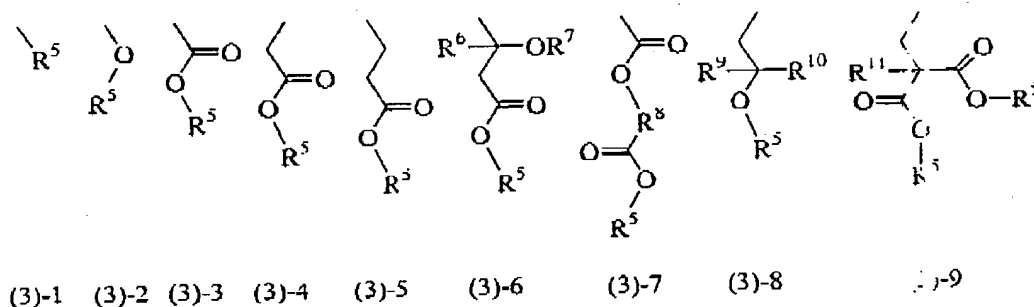
**Listing of Claims:**

1. (Currently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein

A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R<sup>1</sup> is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, selected from formulae (3)-1, (3)-2, (3)-3, (3)-4, (3)-5, (3)-6, (3)-7, (3)-8, and (3)-9



"a" is a positive number of 1 to 3,

R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and

R<sup>2</sup> and R<sup>3</sup> each are a single bond or methylene group.

R<sup>5</sup> is a fluorinated alkyl group which optionally contains an ether or ester bond.

R<sup>6</sup> and R<sup>11</sup> are, each independently, hydrogen or a straight alkyl group of 1 to 10 carbon atoms.

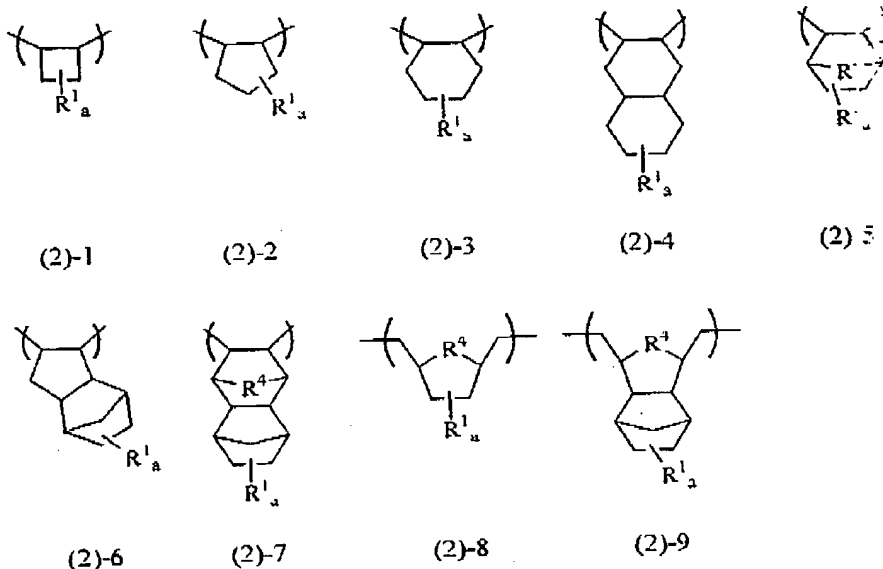
R<sup>7</sup> is hydrogen, a straight alkyl group of 1 to 10 carbon atoms, or -C=O-R<sup>12</sup>  
R<sup>12</sup> is hydrogen or a straight alkyl group of 1 to 10 carbon atoms, and  
R<sup>8</sup> is an alkylene group of 1 to 10 carbon atoms, and  
either one or both of R<sup>9</sup> and R<sup>10</sup> are alkyl groups of 1 to 5 carbon atoms having at least one  
fluorine atom substituted thereon.

2. (Original): The polymer of claim 1 further comprising recurring units containing acid labile groups.
3. (Previously Presented): A chemically amplified resist composition comprising the polymer of claim 1.
4. (Previously Presented): A chemically amplified positive resist composition comprising
  - (A) the polymer of claim 1,
  - (B) an organic solvent, and
  - (C) a photoacid generator.
5. (Original): The resist composition of claim 4 further comprising a basic compound.
6. (Original): The resist composition of claim 4 further comprising a dissolution inhibitor
7. (Original): A process for forming a resist pattern comprising the steps of:  
applying the resist composition of claim 4 onto a substrate to form a coating,  
heat treating the coating and then exposing it to high-energy radiation having a wavelength of up to 180 nm or electron beams through a photo mask, and  
optionally heat treating the exposed coating and developing it with a developer.
8. (Previously Listed as the second Claim 7) (Cancelled)

9. (Previously Listed as Claim 8) (Cancelled):

10. 9. (Currently Amended): A polymer of claim 1, wherein R is a single bond or methylene.

11. 40. (Currently Amended): A polymer of claim 1, wherein the recurring units of formula (1) are selected from formulae (2)-1, (2)-2, (2)-3, (2)-4, (2)-5, (2)-6, (2)-7, (2)-8, and (2)-9

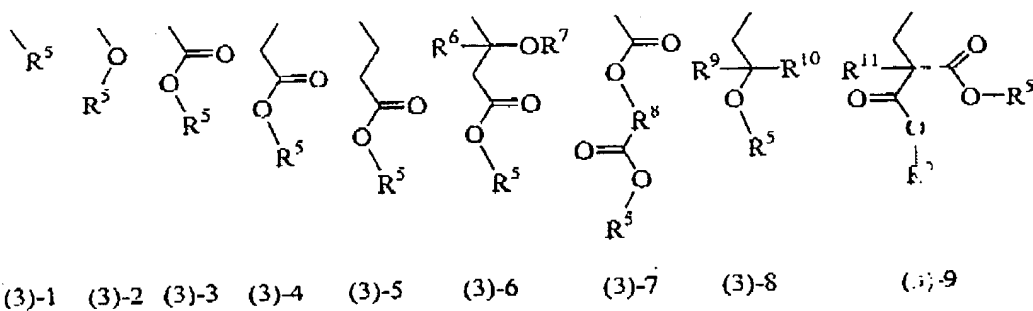


wherein

$R^1$  is a methylene group, oxygen atom, NH group or sulfur atom, and

"a" is a positive number of 1 to 3, and

$R^2$  is selected from formulae (3)-1, (3)-2, (3)-3, (3)-4, (3)-5, (3)-6, (3)-7, (3)-8, and (3)-9



wherein

$R^5$  is a fluorinated alkyl group which optionally contains an ether or ester bond;

$R^6$  and  $R^{11}$  are, each independently, hydrogen or a straight alkyl group of 1 to 14 carbon atoms;

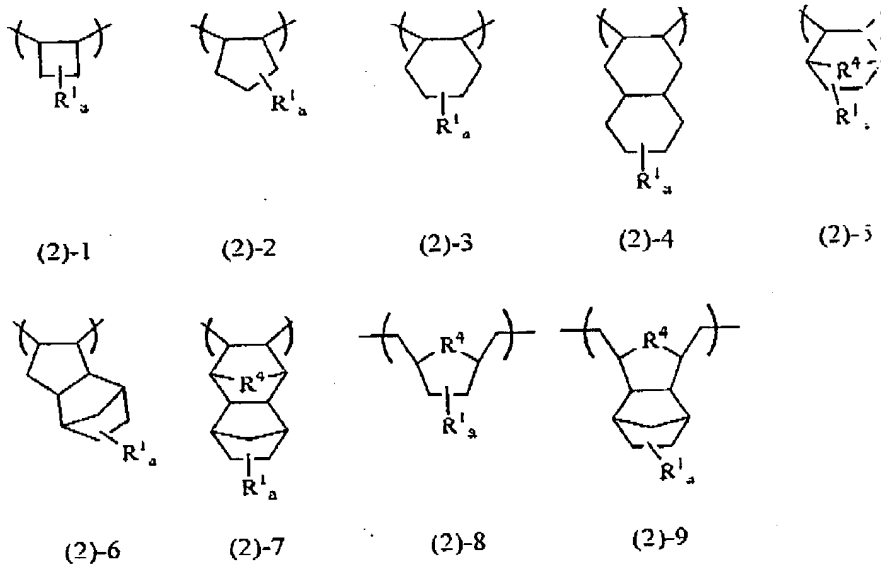
$R^7$  is hydrogen, a straight alkyl group of 1 to 10 carbon atoms, or  $-C(=O)-R^{12}$ ;

$R^{12}$  is hydrogen or a straight alkyl group of 1 to 10 carbon atoms; and

$R^8$  is an alkylene group of 1 to 10 carbon atoms;

wherein either one or both of  $R^9$  and  $R^{10}$  are alkyl groups of 1 to 5 carbon atoms, having at least one fluorine atom substituted thereon.

12. ~~44~~ (Currently Amended): A polymer of claim 1, wherein the recurring units of formula (1) are selected from formulae (2)-1, (2)-2, (2)-3, (2)-4, (2)-5, (2)-6, (2)-7, (2)-8, and (2)-9

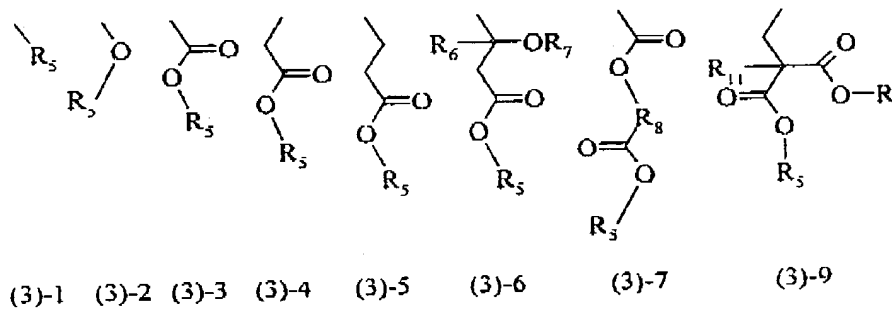


wherein

$R^4$  is a methylene group, oxygen atom, NH group or sulfur atom,

"a" is a positive number of 1 to 3, and

$R^1$  is selected from formulae (3)-1, (3)-2, (3)-3, (3)-4, (3)-5, (3)-6, (3)-7, and (3)-9,



wherein

$R^5$  is a fluorinated alkyl group which optionally contains an ether or ester bond,

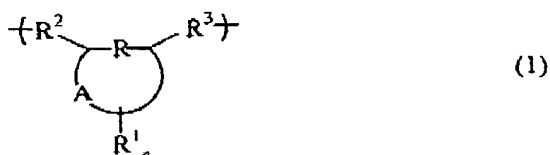
R<sup>6</sup> and R<sup>11</sup> are, each independently, hydrogen or a straight alkyl group of 1 to 10 carbon atoms,

$R^7$  is hydrogen, a straight alkyl group of 1 to 10 carbon atoms, or  $-C(=O)-R^{12}$ ,

R<sup>12</sup> is hydrogen or a straight alkyl group of 1 to 10 carbon atoms, and

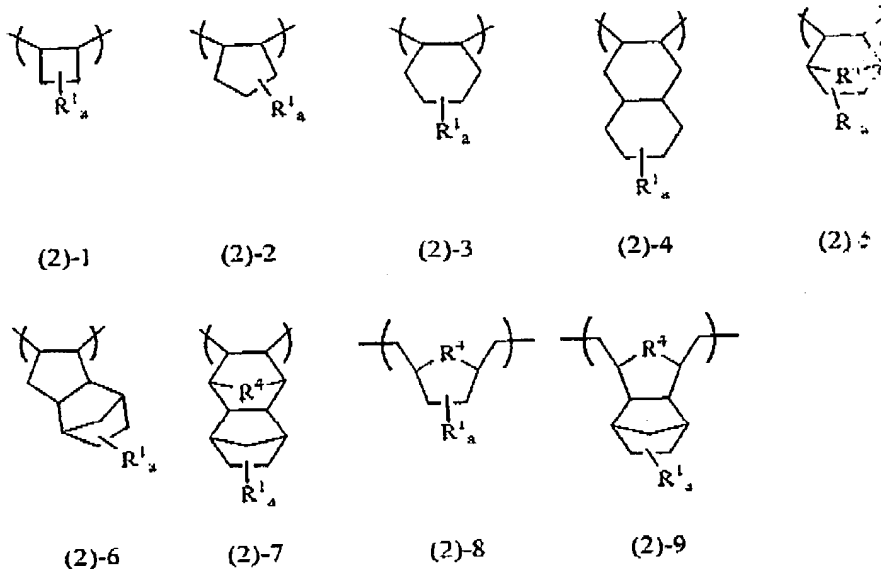
R<sup>8</sup> is an alkylene group of 1 to 10 carbon atoms.

13. +2. (Currently Amended): A polymer comprising recurring units of a compound of formula (1).



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R<sup>1</sup> is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R<sup>2</sup> and R<sup>3</sup> each are a single bond or methylene group;

wherein the recurring units of formula (1) are selected from formulae (2)-1, (2)-2, (2)-3, (2)-4, (2)-5, (2)-6, (2)-7, (2)-8, and (2)-9

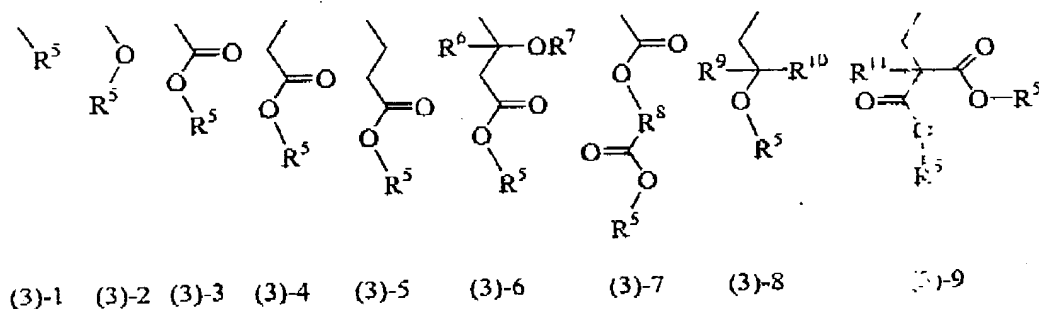


wherein

$R^a$  is a methylene group, oxygen atom, NH group or sulfur atom,

"a" is a positive number of 1 to 3,

$R^1$  is selected from formulae (3)-1, (3)-2, (3)-3, (3)-4, (3)-5, (3)-6, (3)-7, (3)-8, and (3)-9



$R^6$  and  $R^{11}$  are, each independently, hydrogen or a straight alkyl group of 1 to 10 carbon atoms.

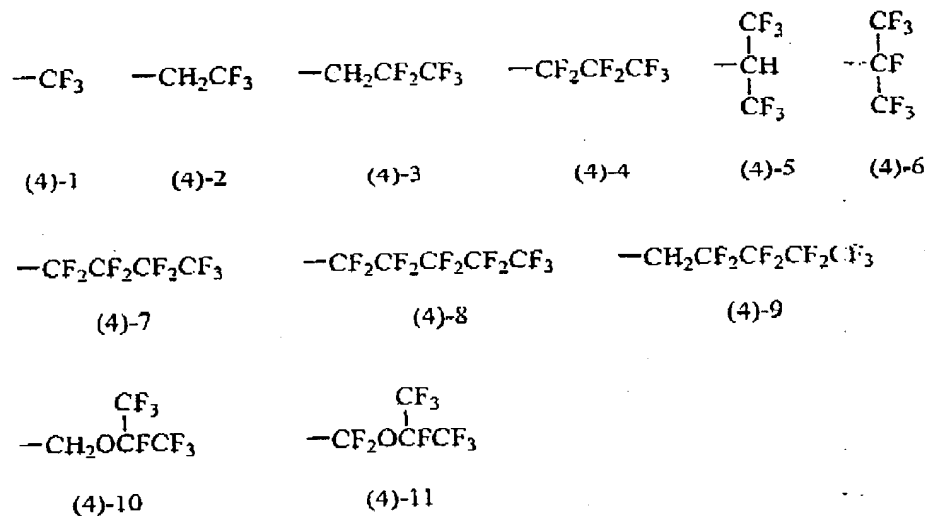
R<sup>7</sup> is hydrogen, a straight alkyl group of 1 to 10 carbon atoms, or -C(=O)-R<sup>12</sup>,

R<sup>12</sup> is hydrogen or a straight alkyl group of 1 to 10 carbon atoms, and

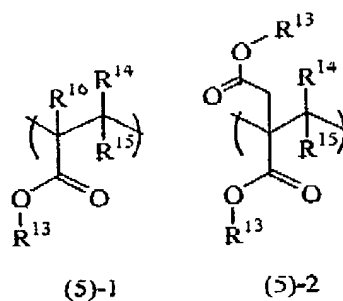
R<sup>8</sup> is an alkylene group of 1 to 10 carbon atoms,

wherein either one or both of R<sup>9</sup> and R<sup>10</sup> are alkyl groups of 1 to 5 carbon atoms having at least one fluorine atom substituted thereon, and

according to claim 10, wherein R<sup>5</sup> is selected from formulae (4)-1, (4)-2, (4)-3, (4)-4, (4)-5, (4)-6, (4)-7, (4)-8, (4)-9, (4)-10 and (4)-11



14. 13- (Currently Amended): A polymer of claim 1, further comprising recurring units of a (meth)acrylic compound of formula (5)-1 or (5)-2

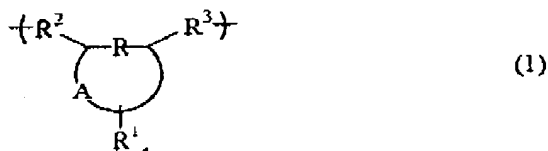


wherein

$R^{13}$  is an acid labile group, and

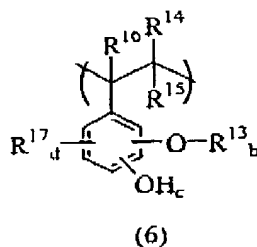
R<sup>14</sup>, R<sup>15</sup> and R<sup>16</sup> are, each independently, a hydrogen atom, fluorine atom, or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, which are, each independently, optionally substituted with fluorine.

15 14. (Currently Amended) A polymer comprising recurring units of a compound of  
formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R<sup>1</sup> is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R<sup>2</sup> and R<sup>3</sup> each are a single bond or methylene group.

said compound of claim 1, further comprising recurring units of a styrene compound of formula (6)



wherein

$R^{13}$  is an acid labile group,

$R^{14}$ ,  $R^{15}$  and  $R^{16}$  are, each independently, a hydrogen atom, fluorine atom, or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, which are, each independently, optionally

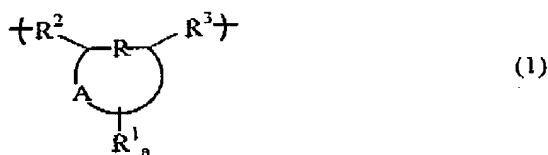
substituted with fluorine,

$R^{17}$  is a hydrogen atom, fluorine atom, or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, which is optionally substituted with fluorine,

b is a positive number of 1 to 5, and

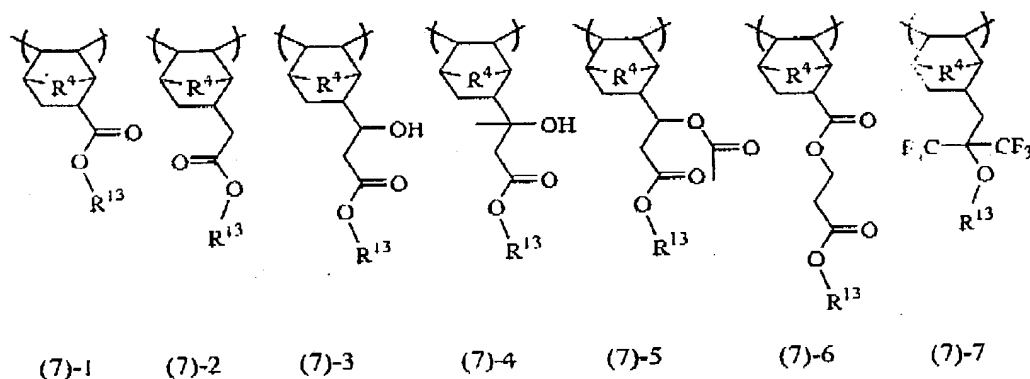
c and d are, each independently, 0 or a positive number of 1 to 4.

16-15. (Currently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms,  $R^1$  is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and  $R^2$  and  $R^3$  each are a single bond or methylene group.

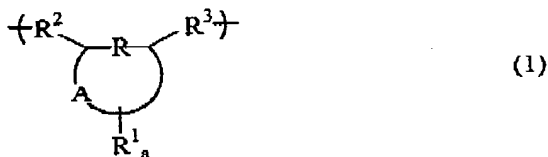
said compound of claim 1, further comprising recurring units of a norbornane compound selected from formulae (7)-1, (7)-2, (7)-3, (7)-4, (7)-5, (7)-6, and (7)-7



wherein

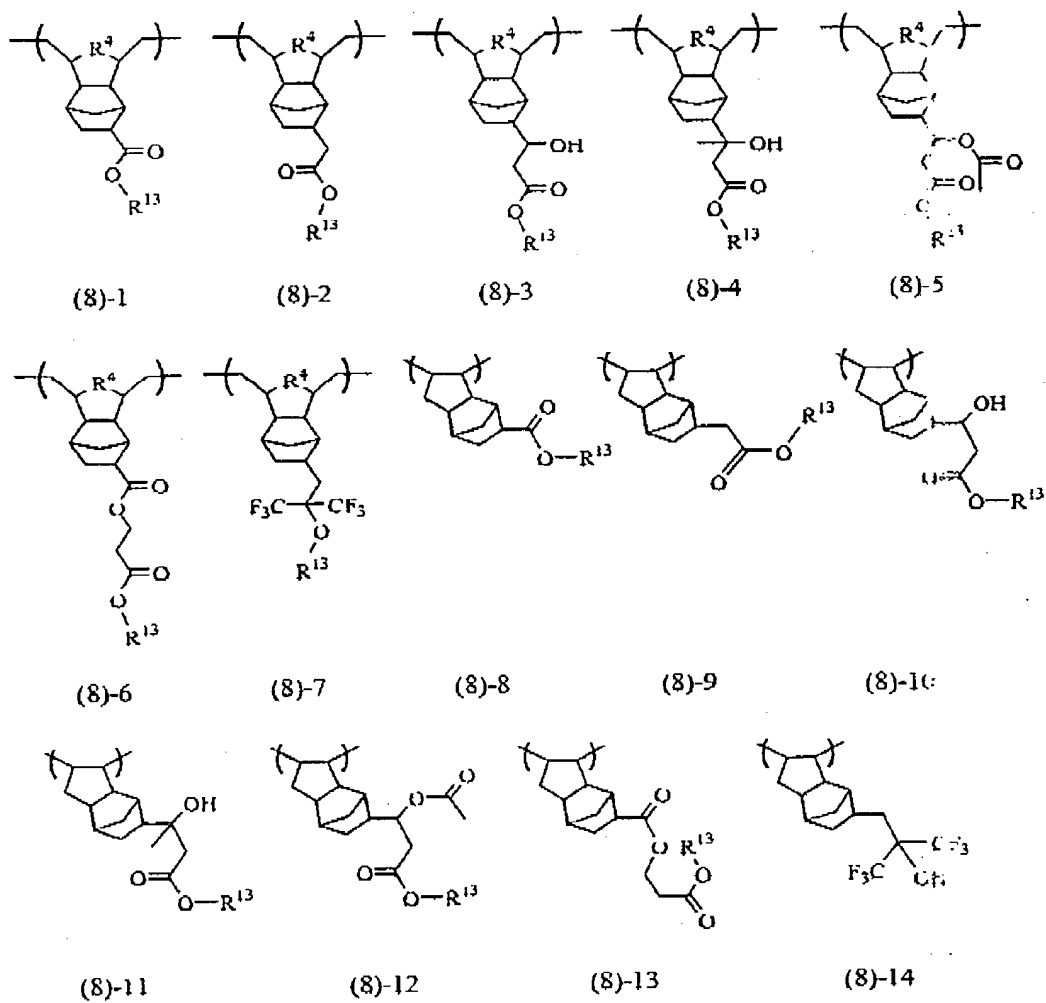
$R^4$  is a methylene group, oxygen atom, NH group or sulfur atom, and  
 $R^{13}$  is an acid labile group.

17. 46. (Currently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms,  $R^1$  is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and  $R^2$  and  $R^3$  each are a single bond or methylene group.

said compound of claim 1, further comprising recurring units of a tricyclodecene compound selected from formulae (8)-1, (8)-2, (8)-3, (8)-4, (8)-5, (8)-6, (8)-7, (8)-8, (8)-9, (8)-10, (8)-11, (8)-12, (8)-13, and (8)-14

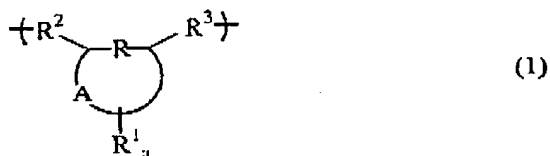


wherein

$R^4$  is a methylene group, oxygen atom, NH group or sulfur atom, and

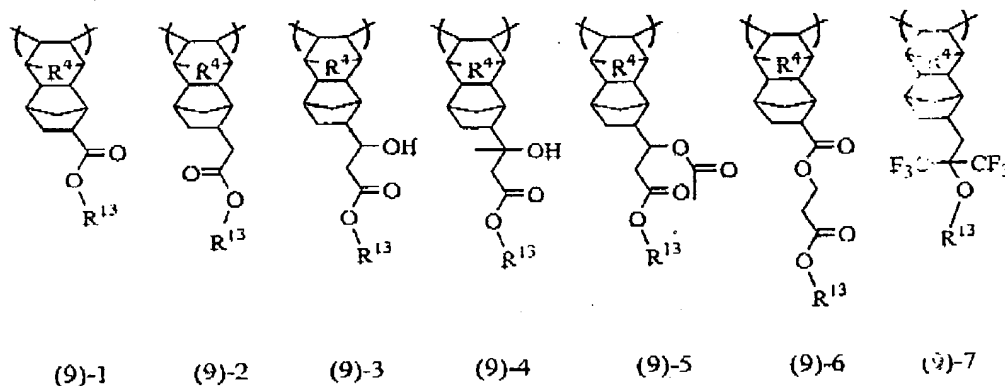
$R^{13}$  is an acid labile group

18. 47. (Currently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R<sup>1</sup> is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R<sup>2</sup> and R<sup>3</sup> each are a single bond or methylene group.

said compound of claim 1, further comprising recurring units of a tetracyclododecene compound selected from formulae (9)-1, (9)-2, (9)-3, (9)-4, (9)-5, (9)-6, and (9)-7

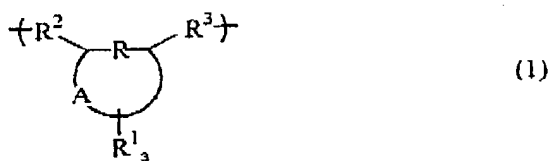


wherein

R<sup>4</sup> is a methylene group, oxygen atom, NH group or sulfur atom, and

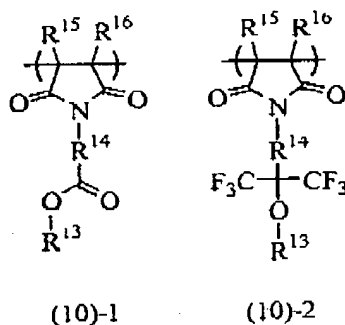
R<sup>13</sup> is an acid labile group.

19. 48. (Currently Amended): A polymer comprising recurring units of a compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R<sup>1</sup> is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R<sup>2</sup> and R<sup>3</sup> each are a single bond or methylene group,

said compound of claim 1, further comprising recurring units of a maleimide compound of formula (10)-1 or (10)-2



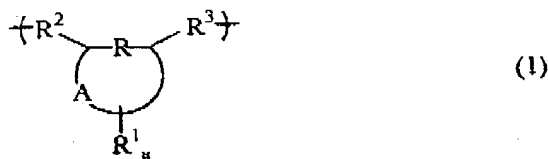
wherein

R<sup>13</sup> is an acid labile group,

R<sup>14</sup> is a single bond or an alkylene group of 1 to 10 carbon atoms, and

R<sup>15</sup> and R<sup>16</sup> are, each independently, hydrogen, fluorine, methyl or trifluoromethyl,

20. 19. (Currently Amended): A polymer comprising recurring units of compound of formula (1):



wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms, R<sup>1</sup> is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and R<sup>2</sup> and R<sup>3</sup> each are a single bond or methylene group.

said compound of claim 1, further comprising recurring units of a vinyl alcohol compound of formula (11)



wherein

R<sup>13</sup> is an acid labile group, and

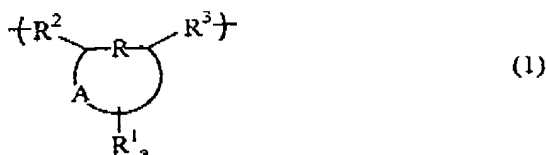
R<sup>14</sup>, R<sup>15</sup> and R<sup>16</sup> are, each independently, a hydrogen atom, fluorine atom, or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, which are, each independently, optionally substituted with fluorine.

21. 20. (Currently Amended): A polymer according to claim 1, wherein said polymer has having a weight average molecular weight of 1,000 to 1,000,000.

22. 21. (Currently Amended): In a process of preparing a polymer, the improvement wherein a monomer of formula (1) of claim 1 is used.

23. 22. (Currently Amended): In a process of forming a resist composition or a resist pattern, the improvement wherein a polymer of claim 1 is used.

24. (New). A chemically amplified positive resist composition comprising  
 (A) a polymer comprising recurring units of a compound of formula (1):

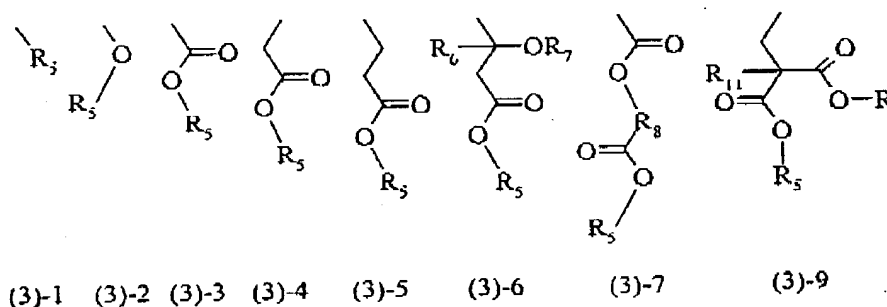


wherein A is a divalent aliphatic or alicyclic hydrocarbon group of 2 to 20 carbon atoms,  $R^1$  is an alkyl group containing at least one fluorine atom, and which optionally contains a hetero atom, "a" is a positive number of 1 to 3, R is a single bond, methylene group, oxygen atom, NH group or sulfur atom, and  $R^2$  and  $R^3$  each are a single bond or methylene group,

- (B) an organic solvent,  
 (C) a photoacid generator, and  
 (D) a dissolution inhibitor.

25. (New). A polymer of claim 1, wherein

$R^1$  is selected from formulae (3)-1, (3)-2, (3)-3, (3)-4, (3)-5, (3)-6, (3)-7, and (3)-9



$R^5$  is a fluorinated alkyl group which optionally contains an ether or ester bond  
 $R^6$  and  $R^{11}$  are, each independently, hydrogen or a straight alkyl group of 1 to 10 carbon atoms,  
 $R^7$  is hydrogen, a straight alkyl group of 1 to 10 carbon atoms, or  $-C(=O)-R^{12}$ ,  
 $R^{12}$  is hydrogen or a straight alkyl group of 1 to 10 carbon atoms, and

R<sup>\*</sup> is an alkylene group of 1 to 10 carbon atoms.

26. (New): A polymer according to claim 25, further comprising recurring units containing acid labile groups.

27. (New): A chemically amplified resist composition comprising a polymer according to claim 25.

28. (New): A chemically amplified positive resist composition comprising  
(A) the polymer of claim 25,  
(B) an organic solvent, and  
(C) a photoacid generator.

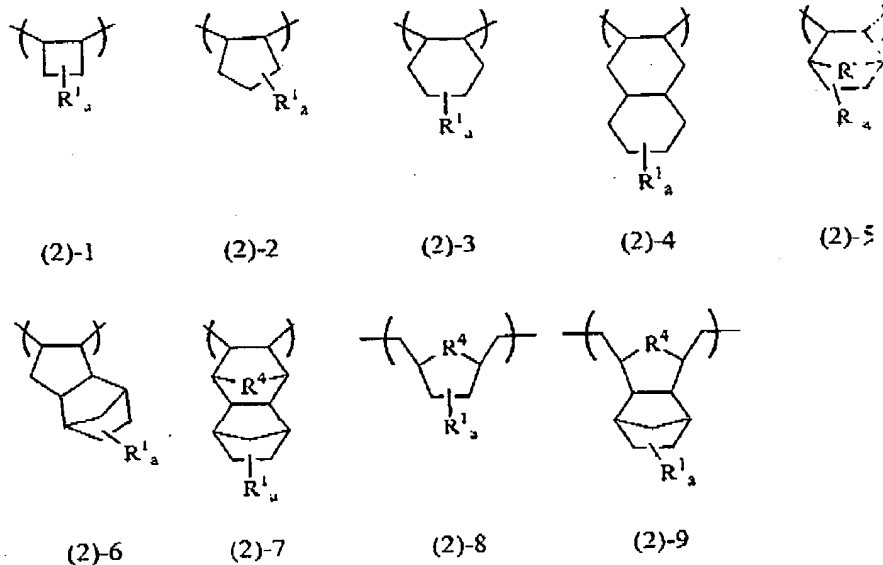
29. (New): A resist composition according to claim 28, further comprising a basic compound

30. (New): A resist composition according to claim 28, further comprising a dissolution inhibitor.

31. (New): A process for forming a resist pattern comprising the steps of:  
applying a resist composition according to claim 28 onto a substrate to form a coating,  
heat treating the coating and then exposing it to high-energy radiation having a wavelength of up to 180 nm or electron beams through a photo mask, and  
optionally heat treating the exposed coating and developing it with a developer.

32. (New): A polymer of claim 25, wherein R is a single bond or methylene.

33. (New): A polymer of claim 1, wherein the recurring units of formula (1) are selected from formulae (2)-1, (2)-2, (2)-3, (2)-4, (2)-5, (2)-6, (2)-7, (2)-8, and (2)-9



wherein

$R^4$  is a methylene group, oxygen atom, NH group or sulfur atom, and

"a" is a positive number of 1 to 3